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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,675	12/31/2003	Yong-Hec Lee	11038-177-999	2229

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EXAMINER

MONIKANG, GEORGE C

ART UNIT	PAPER NUMBER
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2615

MAIL DATE	DELIVERY MODE
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06/05/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/750,675

Applicant(s)

LEE, YONG-HEE

Examiner

George C. Monikang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 10750675.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/11/2006, 4/14/2005, 5/6/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Breed et al, US Patent 6,778,672 B2.

Re Claim 1, Breed et al discloses a method of improving speaker sound quality in a vehicle (abstract), comprising the steps of: determining standard sound ranges based upon the number and positions of passengers in a standard vehicle (abstract; col. 20, lines 50-63); creating a memory table with data describing the most appropriate speaker angles and sound pressure output levels for each standard sound range (abstract; col. 7, lines 4-7; col. 20, lines 19-24); detecting a passenger's position (col. 20, lines 5-12), number of passengers (col. 20, lines 5-12), and positions of the passengers' ears (col. 6, lines 58-62); selecting the standard sound range that corresponds to the number and positions of passengers in the vehicle (col. 20, line 63 through col. 21, line 3); finding the speaker angles and sound pressure output levels from the memory table corresponding to the standard sound range from the selecting step (col. 7, lines 4-7; col.

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20, lines 40-49); adjusting each speaker so that each speaker satisfies the speaker angles and sound pressure output levels from the finding step (col. 20, lines 40-49).

Re Claim 2, Breed et al discloses the method in claim 1, wherein the sound standard range is divided into eleven seating arrangements and the eleven seating arrangements (abstract: occupant positions) include: a first instance of a driver seated in a driver's seat; a second instance of a passenger seated in a VIP seat (fig. 5a; col. 20, lines 50-62; col. 20, line 63 through col. 21, line 3); third to sixth instances where two passengers are seated in a driver's seat and a front passenger seat (fig. 5a; col. 20, lines 50-62; col. 20, line 63 through col. 21, line 3), two passengers are seated in the back seats in the left and right sides (fig. 5a; col. 20, lines 50-62; col. 20, line 63 through col. 21, line 3), one passenger is seated in the driver's seat and one passenger is seated in the left passenger seat (fig. 5a; col. 20, lines 50-62; col. 20, line 63 through col. 21, line 3), and one passenger is seated in the front passenger seat and another passenger is seated in the right passenger seat (fig. 5a; col. 20, lines 50-62; col. 20, line 63 through col. 21, line 3); seventh to tenth instances where three passengers are seated in the two front seats and one passenger is seated in the left passenger seat (fig. 5a; col. 20, lines 50-62; col. 20, line 63 through col. 21, line 3), two passengers are seated in the front two seats and one passenger is seated in the right passenger seat (fig. 5a; col. 20, lines 50-62; col. 20, line 63 through col. 21, line 3), two passengers are seated in the back seat and a driver is (fig. 5a; col. 20, lines 50-62; col. 20, line 63 through col. 21, line 3) seated in the driver's seat (), and two passengers are seated in the back seats and one passenger is seated in the front passenger seat (fig. 5a; col. 20,

lines 50-62; col. 20, line 63 through col. 21, line 3); and an eleventh instance where four passengers are seated in the front two seats and in the back seats (fig. 5a; col. 20, lines 50-62; col. 20, line 63 through col. 21, line 3).

Claim 4 has been analyzed and rejected according to claim 1.

Re Claim 5, Breed et al discloses the method in claim 4, further comprising the steps of: executing the detecting step at predetermined intervals (col. 20, lines 41-49; since speaker is adjusted to direct to occupants ears, the system will have to obtain new signals when the occupant moves his/her head); and executing the determining and adjusting steps if the position of the passengers changed since the speakers were most recently adjusted (col. 20, lines 41-49; speakers are adjusted to direct occupants ears).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Breed et al, US Patent 6,778,672 B2 as applied to claim 1 above, in view of Ogino et al, US Patent 5,404,128.

Re Claim 3, Breed et al discloses the method in claim 1, wherein the detecting step further comprises: using ultrasonic sensors mounted on a roof to determine ear positions of passengers (fig. 13: 520; col. 26, lines 9-12; col. 9, lines 24-35; col. 29, lines 55-64; col. 31, lines 30-37); but fails to disclose using piezo-electric elements mounted on seats to determine the number and positions of the passengers. However, Ogino et al does (abstract; col. 19, lines 14-16).

Taking the combined teachings of Breed et al and Ogino et al as a whole, one skilled in the art would have found it obvious to modify the method in claim 1, wherein the detecting step further comprises: using ultrasonic sensors mounted on a roof to determine ear positions of passengers (fig. 13: 520; col. 26, lines 9-12; col. 9, lines 24-35; col. 29, lines 55-64; col. 31, lines 30-37) of Breed et al with using piezo-electric elements mounted on seats to determine the number and positions of the passengers as taught in Ogino et al (abstract; col. 19, lines 14-16) to accurately decide whether or not a person is present.

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George C. Monikang whose telephone number is 571-

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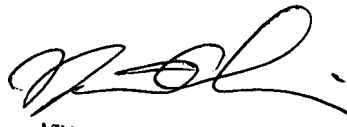
270-1190. The examiner can normally be reached on M-F. alt Fri. Off 7:30am-5:00pm (est).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

George Monikang

5/21/2007


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